

REQUEST FOR ACCESS OF ABANDONED APPLICATION UNDER 37 CFR 1.14(a)

In re Application of

Application Number

374 331

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United States Patent [19]

Lobb et al.

[11] Patent Number: 5,871,734

[45] Date of Patent: Feb. 16, 1999

[54] TREATMENT FOR ASTHMA WITH VLA-4 BLOCKING AGENTS**[75] Inventors:** Roy R. Lobb, Westwood; Linda C. Burkly, West Newton, both of Mass.**[73] Assignee:** Biogen, Inc., Cambridge, Mass.**[21] Appl. No.:** 822,830**[22] Filed:** Mar. 21, 1997**Related U.S. Application Data**

[63] Continuation of Ser. No. 456,193, May 31, 1995, abandoned, which is a continuation-in-part of Ser. No. 374,331, Jan. 18, 1995, abandoned, which is a continuation-in-part of Ser. No. 256,631, Dec. 1, 1994, abandoned, which is a continuation-in-part of PCT/US93/00030 Jan. 12, 1993, which is a continuation-in-part of Ser. No. 821,768, Jan. 13, 1992, abandoned.

[51] Int. Cl.⁶ A61K 39/395; A61K 35/12; A61K 38/17

[52] U.S. Cl. 424/144.1; 424/130.1; 424/133.1; 424/171.1; 424/143.1; 424/153.1; 424/154.1; 424/173.1; 514/2; 514/8; 514/885

[58] Field of Search 424/130.1, 133.1, 424/143.1, 154.1; 530/387.1, 388.22; 514/2, 8

[56] References Cited**U.S. PATENT DOCUMENTS**

4,816,397 3/1989 Boss et al. .
4,833,092 5/1989 Geysen .
5,116,964 5/1992 Capon .
5,272,263 12/1993 Heahon .
5,730,978 3/1998 Wayner et al. .

FOREIGN PATENT DOCUMENTS

0 330 506 8/1989 European Pat. Off. .
387701 9/1990 European Pat. Off. .
9103252 3/1991 WIPO .
WO 92/00751 1/1992 WIPO .
WO 95.19790 1/1995 WIPO .

OTHER PUBLICATIONS

McNeil JNCI 87: 1658-1660 (1995).
Issekutz et al. J. Immunol. 147: 109-116 (1991).
Issekutz J. Immunol. 147: 4178-4184 (1991).
Mountain et al. Gen Eng Rev 110:1, 10-13 only (1992).
Edgington Biotechnology 10: 383-389 (1992).
Ward et al. Therapeutic Immunology 1: 165-171 (1994).
McCabe et al. Cell Immunol. 150: 364-375 (1993).
Paul Fundamental Immunol. 3rd Ed. 1993 Raven Press p. 242 only.
Osborn Cell 62: 3-6 1990.
Gundel et al. J Allergy Clin. Immunol. 85: 282 (1990).
Altman, L.K., (1991) "Despite Gains in Treatment, Asthma Worsens", *New York Times*, The Doctor's World, Mar. 26.
Weller, P.F., et al., (1991) "Human eosinophil adherence to vascular endothelium mediated by binding to vascular cell adhesion molecule 1 and endothelial leukocyte adhesion molecule 1", *Proceedings of the National Academy of Sciences*, vol. 88, pp. 7430-7433.

Walsh, G.M., et al., (1991) "Human Eosinophil, But Not Neutrophil, Adherence to IL-1-Stimulated Human Umbilical Vascular Endothelial Cells Is $\alpha_4\beta_1$ (Very Late Antigen-4) Dependent", *J. Immunol.*, vol. 146, pp. 3419-3423.
Bochner, B.S., et al., (1991) "Adhesion of Human Basophils, Eosinophils, and Neutrophils to Interleukin 1-activated Human Vascular Endothelial Cells: Contributions of Endothelial Cell Adhesion Molecules", *J. Exp. Med.*, vol. 173, pp. 1553-1556.

Dobrina, A., et al., (1991) "Mechanisms of Eosinophil Adherence to Cultured Vascular Endothelial Cells", *J. Clin. Invest.*, vol. 88, pp. 20-26.

Pulido, R., et al., (1991) "Functional Evidence for Three Distinct and Independently Inhibitable Adhesion Activated Mediated by the Human Integrin VLA-4", *J. Biol. Chem.*, vol. 266, No. 16, pp. 10241-10245.

Gundel, R.H., et al., (1991) "Endothelial Leukocyte Adhesion Molecule-1 Mediates Antigen-induced Acute Airway Inflammation and Late-phase Airway Obstruction in Monkeys", *J. Clin. Invest.*, vol. 88, pp. 1407-1411.

Parmentier, S., et al., (1991) "Role of Glycoprotein IIa (beta subunit of very late activation antigens) in platelet functions", *Chemical Abstract*, vol. 115, No. 23, Abst. # 252 791h.

Onish, R., et al., (1991) "A monoclonal antibody, 2H7, which defines a new very late activation antigen, inhibits IL-2-mediated cell proliferation", *Chemical Abstract*, vol. 114, No. 9, Abst. #79 730a.

Sears, M.R., (1990) "Epidemiology of Asthma", in *Asthma as an Inflammatory Disease*, P. O'Byrne Ed., Marcel Dekker, Inc.; New York, pp. 15-48.

Cockcroft, D.W., (1990) "Atopy and Asthma", in *Asthma as an Inflammatory Disease*, P. O'Byrne Ed., Marcel Dekker, Inc.; New York, pp. 103-125.

Cuss, F.M.C., (1990) "The Pharmacology of Antiasthma Medications", in *Asthma as an Inflammatory Disease*, P. O'Byrne Ed., Marcel Dekker, Inc.; New York, pp. 199-250.

O'Byrne, P.M., (1990) "Airway Inflammation and Asthma", in *Asthma as an Inflammatory Disease*, P. O'Byrne Ed., Marcel Dekker, Inc.; New York, pp. 143-157.

Hogg, J.C., (1990) "Pathology of Asthma", in *Asthma as an Inflammatory Disease*, P. O'Byrne Ed., Marcel Dekker, Inc.; New York, pp. 1-13.

Chung, K.F., (1990) "Inflammatory Mediators in Asthma", in *Asthma as an Inflammatory Disease*, P. O'Byrne Ed., Marcel Dekker, Inc.; New York, pp. 159-183.

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[57] ABSTRACT

A method for the treatment of asthma is disclosed. The method comprises administration of an antibody, polypeptide or other molecule recognizing VLA-4, a protein expressed on the surface of certain leukocytes such as eosinophils.

22 Claims, 12 Drawing Sheets

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